

Markus Windolf

List of Publications by Year in descending order

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107
papers

3,334
citations

136885

32
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175177

52
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112
all docs

112
docs citations

112
times ranked

2778
citing authors

#	ARTICLE	IF	CITATIONS
1	Validity of a Novel Digitally Enhanced Skills Training Station for Freehand Distal Interlocking. <i>Medicina (Lithuania)</i> , 2022, 58, 773.	0.8	3
2	Continuous Implant Load Monitoring to Assess Bone Healing Status—Evidence from Animal Testing. <i>Medicina (Lithuania)</i> , 2022, 58, 858.	0.8	14
3	Continuous Rod Load Monitoring to Assess Spinal Fusion Status—Pilot In Vivo Data in Sheep. <i>Medicina (Lithuania)</i> , 2022, 58, 899.	0.8	6
4	In vivo test of a radiography-based navigation system for control of derotational osteotomies. <i>Journal of Orthopaedic Research</i> , 2021, 39, 130-135.	1.2	2
5	Smart implants in fracture care — only buzzword or real opportunity?. <i>Injury</i> , 2021, 52, S101-S105.	0.7	24
6	The relation between fracture activity and bone healing with special reference to the early healing phase — A preclinical study. <i>Injury</i> , 2021, 52, 71-77.	0.7	18
7	Cortical parameters predict bone strength at the tibial diaphysis, but are underestimated by HR-pQCT and $\frac{1}{4}$ CT compared to histomorphometry. <i>Journal of Anatomy</i> , 2021, 238, 669-678.	0.9	4
8	Morphology of bony callus growth in healing of a sheep tibial osteotomy. <i>Injury</i> , 2021, 52, 66-70.	0.7	1
9	Biphasic plating improves the mechanical performance of locked plating for distal femur fractures. <i>Journal of Biomechanics</i> , 2021, 115, 110192.	0.9	15
10	From creative thinking to scientific principles in clinical practice. <i>Injury</i> , 2021, 52, 32-36.	0.7	3
11	Clinical feasibility of fracture healing assessment through continuous monitoring of implant load. <i>Journal of Biomechanics</i> , 2021, 116, 110188.	0.9	11
12	Generic Implant Positioning Technology Based on Hole Projections in X-Ray Images. <i>Journal of Medical Devices, Transactions of the ASME</i> , 2021, 15, 025002.	0.4	5
13	Growth modulation of angular deformities with a novel constant force implant concept-preclinical results. <i>Journal of Children's Orthopaedics</i> , 2021, 15, 137-148.	0.4	1
14	Short-Term Bone Healing Response to Mechanical Stimulation—A Case Series Conducted on Sheep. <i>Biomedicines</i> , 2021, 9, 988.	1.4	5
15	Impact of Bone Cement Augmentation on the Fixation Strength of TFNA Blades and Screws. <i>Medicina (Lithuania)</i> , 2021, 57, 899.	0.8	13
16	Programable Active Fixator System for Systematic In Vivo Investigation of Bone Healing Processes. <i>Sensors</i> , 2021, 21, 17.	2.1	7
17	Cement augmentation of calcar screws may provide the greatest reduction in predicted screw cut-out risk for proximal humerus plating based on validated parametric computational modelling. <i>Bone and Joint Research</i> , 2020, 9, 534-542.	1.3	16
18	Computational optimisation of screw orientations for improved locking plate fixation of proximal humerus fractures. <i>Journal of Orthopaedic Translation</i> , 2020, 25, 96-104.	1.9	11

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19	Biphasic Plating – In vivo study of a novel fixation concept to enhance mechanobiological fracture healing. <i>Injury</i> , 2020, 51, 1751-1758.	0.7	9
20	Comparison of optimal screw configurations in two locking plate systems for proximal humerus fixation - a finite element analysis study. <i>Clinical Biomechanics</i> , 2020, 78, 105097.	0.5	7
21	Secondary Perforation Risk in Plate Osteosynthesis of Unstable Proximal Humerus Fractures: A Biomechanical Investigation of the Effect of Screw Length. <i>Journal of Orthopaedic Research</i> , 2019, 37, 2625-2633.	1.2	7
22	Importance of locking plate positioning in proximal humeral fractures as predicted by computer simulations. <i>Journal of Orthopaedic Research</i> , 2019, 37, 957-964.	1.2	26
23	Screw configuration in proximal humerus plating has a significant impact on fixation failure risk predicted by finite element models. <i>Journal of Shoulder and Elbow Surgery</i> , 2019, 28, 1816-1823.	1.2	22
24	The influence of screw length on predicted cut-out failures for proximal humeral fracture fixations predicted by finite element simulations. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2019, 139, 1069-1074.	1.3	24
25	Biomechanical comparison between standard and inclined screw orientation in dynamic hip screw side-plate fixation: The lift-off phenomenon. <i>Journal of Orthopaedic Translation</i> , 2019, 18, 92-99.	1.9	5
26	The prediction of cyclic proximal humerus fracture fixation failure by various bone density measures. <i>Journal of Orthopaedic Research</i> , 2018, 36, 2250-2258.	1.2	11
27	Mechanobiologically optimized 3D titanium-mesh scaffolds enhance bone regeneration in critical segmental defects in sheep. <i>Science Translational Medicine</i> , 2018, 10, .	5.8	199
28	Validated computational framework for efficient systematic evaluation of osteoporotic fracture fixation in the proximal humerus. <i>Medical Engineering and Physics</i> , 2018, 57, 29-39.	0.8	28
29	New approaches for cement-based prophylactic augmentation of the osteoporotic proximal femur provide enhanced reinforcement as predicted by non-linear finite element simulations. <i>Clinical Biomechanics</i> , 2017, 44, 7-13.	0.5	19
30	A cadaveric biomechanical study comparing the ease of femoral nail insertion: 1.0- vs 1.5-m bow designs. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2017, 137, 663-671.	1.3	10
31	Fatigue failure of plated osteoporotic proximal humerus fractures is predicted by the strain around the proximal screws. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2017, 75, 68-74.	1.5	35
32	Biomechanical comparison of augmented versus non-augmented sacroiliac screws in a novel hemi-pelvis test model. <i>Journal of Orthopaedic Research</i> , 2017, 35, 1485-1493.	1.2	45
33	Bone cement allocation analysis in artificial cancellous bone structures. <i>Journal of Orthopaedic Translation</i> , 2017, 8, 40-48.	1.9	7
34	Implicit modeling of screw threads for efficient finite element analysis of complex bone-implant systems. <i>Journal of Biomechanics</i> , 2016, 49, 1836-1844.	0.9	45
35	Bone cement flow analysis by stepwise injection through medical cannulas. <i>Medical Engineering and Physics</i> , 2016, 38, 1434-1438.	0.8	2
36	Bone Mass Distribution of the Distal Tibia in Normal, Osteopenic, and Osteoporotic Conditions: An Ex Vivo Assessment Using HR-pQCT, DXA, and Computational Modelling. <i>Calcified Tissue International</i> , 2016, 99, 588-597.	1.5	11

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37	Cement augmentation of implantsâ€”no general cure in osteoporotic fracture treatment. A biomechanical study on nonâ€”displaced femoral neck fractures. <i>Journal of Orthopaedic Research</i> , 2016, 34, 314-319.	1.2	11
38	Analysis of sacro-iliac joint screw fixation: does quality of reduction and screw orientation influence joint stability? A biomechanical study. <i>International Orthopaedics</i> , 2016, 40, 1537-1543.	0.9	18
39	Nonlinear quasi-static finite element simulations predict in vitro strength of human proximal femora assessed in a dynamic sideways fall setup. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2016, 57, 116-127.	1.5	32
40	Monitoring Healing Progression and Characterizing the Mechanical Environment in Preclinical Models for Bone Tissue Engineering. <i>Tissue Engineering - Part B: Reviews</i> , 2016, 22, 47-57.	2.5	15
41	Prophylactic augmentation of the osteoporotic proximal femurâ€”mission impossible?. <i>BoneKEY Reports</i> , 2016, 5, 854.	2.7	19
42	Assessment of Ankle and Hindfoot Stability and Joint Pressures Using a Human Cadaveric Model of a Large Lateral Talar Process Excision. <i>Medicine (United States)</i> , 2015, 94, e606.	0.4	12
43	Multiphasic modelling of boneâ€”cement injection into vertebral cancellous bone. <i>International Journal for Numerical Methods in Biomedical Engineering</i> , 2015, 31, e02696.	1.0	12
44	Increasing pullout strength of suture anchors in osteoporotic bone using augmentationâ€”A cadaver study. <i>Clinical Biomechanics</i> , 2015, 30, 243-247.	0.5	30
45	Cement augmentation of hip implants in osteoporotic bone: How much cement is needed and where should it go?. <i>Journal of Orthopaedic Research</i> , 2014, 32, 362-368.	1.2	20
46	Implant Augmentation. <i>Medicine (United States)</i> , 2014, 93, e166.	0.4	32
47	Assessment of Intraosseous Femoral Head Pressures During Cement Augmentation of the Perforated Proximal Femur Nail Antirotation Blade. <i>Journal of Orthopaedic Trauma</i> , 2014, 28, 398-402.	0.7	15
48	Metaphyseal Screw Augmentation of the LISS-PLT Plate With Polymethylmethacrylate Improves Angular Stability in Osteoporotic Proximal Third Tibial Fractures. <i>Journal of Orthopaedic Trauma</i> , 2014, 28, 294-299.	0.7	11
49	Cortical bone loss at the tibia in postmenopausal women with osteoporosis is associated with incident non-vertebral fractures: Results of a randomized controlled ancillary study of HORIZON. <i>Maturitas</i> , 2014, 77, 287-293.	1.0	7
50	Augmented screws in angular stable plating of the proximal humerus: What to do when revision is needed?. <i>Clinical Biomechanics</i> , 2014, 29, 1023-1026.	0.5	12
51	A biomechanical comparison of fixed angle locking compression plate osteosynthesis and cement augmented screw osteosynthesis in the management of intra articular calcaneal fractures. <i>International Orthopaedics</i> , 2014, 38, 1705-1710.	0.9	23
52	Influence of flexible fixation for open book injury after pelvic trauma â€” A biomechanical study. <i>Clinical Biomechanics</i> , 2014, 29, 657-663.	0.5	16
53	A biomechanical study on proximal plate fixation techniques in periprosthetic femur fractures. <i>Injury</i> , 2014, 45, S71-S75.	0.7	44
54	Two-leg alternate loading model â€” A different approach to biomechanical investigations of fixation methods of the injured pelvic ring with focus on the pubic symphysis. <i>Journal of Biomechanics</i> , 2014, 47, 380-386.	0.9	17

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55	Multiphasic Modelling of the Vertebral Bone for Cement-Injection Studies. Proceedings in Applied Mathematics and Mechanics, 2014, 14, 117-118.	0.2	0
56	Microstructural Parameters of Bone Evaluated Using HR-pQCT Correlate with the DXA-Derived Cortical Index and the Trabecular Bone Score in a Cohort of Randomly Selected Premenopausal Women. PLoS ONE, 2014, 9, e88946.	1.1	29
57	Fatigue performance of angle-stable tibial nail interlocking screws. International Orthopaedics, 2013, 37, 113-118.	0.9	14
58	Biomechanical performance of different cable and wire cerclage configurations. International Orthopaedics, 2013, 37, 125-130.	0.9	76
59	Cement augmentation of lag screws: an investigation on biomechanical advantages. Archives of Orthopaedic and Trauma Surgery, 2013, 133, 373-379.	1.3	15
60	Biomechanical in vitro assessment of screw augmentation in locked plating of proximal humerus fractures. Injury, 2013, 44, 1327-1332.	0.7	95
61	In vitro temperature evaluation during cement augmentation of proximal humerus plate screw tips. Injury, 2013, 44, 1321-1326.	0.7	34
62	Tension band wiring of the olecranon: Is it really a dynamic principle of osteosynthesis?. Injury, 2013, 44, 518-522.	0.7	58
63	Influence of peri-implant bone quality on implant stability. Medical Engineering and Physics, 2013, 35, 82-87.	0.8	22
64	Limited V-shaped cement augmentation of the proximal femur to prevent secondary hip fractures. Journal of Biomaterials Applications, 2013, 28, 136-143.	1.2	37
65	Feasibility study on the potential of a spiral blade in osteoporotic distal femur fracture fixation. Archives of Orthopaedic and Trauma Surgery, 2013, 133, 1675-1679.	1.3	3
66	Mechanical behavior of fixation components for periprosthetic fracture surgery. Clinical Biomechanics, 2013, 28, 988-993.	0.5	33
67	Biomechanical comparison of three types of bone graft for anterior spondylodesis. Technology and Health Care, 2013, 21, 315-322.	0.5	3
68	Porous-media simulation of bone-cement spreading during vertebroplasty. Proceedings in Applied Mathematics and Mechanics, 2013, 13, 67-68.	0.2	1
69	Hindfoot Joint Pressure in Supination Sprains. American Journal of Sports Medicine, 2012, 40, 902-908.	1.9	3
70	Ex vivo evaluation of the polymerization temperatures during cement augmentation of proximal femoral nail antirotation blades. Journal of Trauma, 2012, 72, 1098-1101.	2.3	28
71	Potential of polymethylmethacrylate cement-augmented helical proximal femoral nail antirotation blades to improve implant stability – A biomechanical investigation in human cadaveric femoral heads. Journal of Trauma, 2012, 72, E54-E59.	2.3	49
72	Prediction of bone strength at the distal tibia by HR-pQCT and DXA. Bone, 2012, 50, 296-300.	1.4	21

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73	Biomechanical evaluation of bone-cement augmented Proximal Femoral Nail Antirotation blades in a polyurethane foam model with low density. <i>Clinical Biomechanics</i> , 2012, 27, 71-76.	0.5	46
74	Biomechanical evaluation of two intramedullary nailing techniques with different locking options in a three-part fracture proximal humerus model. <i>Clinical Biomechanics</i> , 2012, 27, 686-691.	0.5	36
75	The locking attachment plate for proximal fixation of periprosthetic femur fractures—a biomechanical comparison of two techniques. <i>International Orthopaedics</i> , 2012, 36, 1915-1921.	0.9	36
76	Angulated locking plate in periprosthetic proximal femur fractures: biomechanical testing of a new prototype plate. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012, 132, 1437-1444.	1.3	14
77	Underneath the cerclage: an ex vivo study on the cerclage-bone interface mechanics. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2012, 132, 1467-1472.	1.3	42
78	Reinforcing the role of the conventional C-arm - a novel method for simplified distal interlocking. <i>BMC Musculoskeletal Disorders</i> , 2012, 13, 8.	0.8	20
79	Angular Stability Potentially Permits Fewer Locking Screws Compared With Conventional Locking in Intramedullary Nailed Distal Tibia Fractures: A Biomechanical Study. <i>Journal of Orthopaedic Trauma</i> , 2011, 25, 340-346.	0.7	64
80	Effect on Dynamic Mechanical Stability and Interfragmentary Movement of Angle-Stable Locking of Intramedullary Nails in Unstable Distal Tibia Fractures: A Biomechanical Study. <i>Journal of Trauma</i> , 2011, 70, 358-365.	2.3	36
81	Bone marrow modified acrylic bone cement for augmentation of osteoporotic cancellous bone. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2011, 4, 2081-2089.	1.5	10
82	Evaluation of a polyaxial angle-stable volar plate in a distal radius C-fracture model—a biomechanical study. <i>Injury</i> , 2011, 42, 1248-1252.	0.7	36
83	Impact of Complications in Total Ankle Replacement and Ankle Arthrodesis Analyzed with a Validated Outcome Measurement. <i>Journal of Bone and Joint Surgery - Series A</i> , 2011, 93, 830-839.	1.4	135
84	A comparison of parallel and diverging screw angles in the stability of locked plate constructs. <i>Journal of Bone and Joint Surgery: British Volume</i> , 2011, 93-B, 1259-1264.	3.4	16
85	DensiProbe Spine. <i>Spine</i> , 2010, 35, 607-612.	1.0	16
86	Stability of Medial Locking Plate and Compression Screw Versus Two Crossed Screws for Lapidus Arthrodesis. <i>Foot and Ankle International</i> , 2010, 31, 158-163.	1.1	72
87	Treatment of distal humeral fractures using conventional implants. Biomechanical evaluation of a new implant configuration. <i>BMC Musculoskeletal Disorders</i> , 2010, 11, 172.	0.8	27
88	Biomechanical investigation of an alternative concept to angular stable plating using conventional fixation hardware. <i>BMC Musculoskeletal Disorders</i> , 2010, 11, 95.	0.8	11
89	A novel non-bridging external fixator construct versus volar angular stable plating for the fixation of intra-articular fractures of the distal radius—a biomechanical study. <i>Injury</i> , 2010, 41, 204-209.	0.7	19
90	Ankle Joint Pressure Changes in a Pes Cavovarus Model After Lateralizing Calcaneal Osteotomies. <i>Foot and Ankle International</i> , 2010, 31, 741-746.	1.1	43

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91	Development of a technique for cement augmentation of nailed tibiototalcaneal arthrodesis constructs. <i>Clinical Biomechanics</i> , 2010, 25, 576-581.	0.5	31
92	Biomechanical evaluation of a new fixation technique for internal fixation of three-part proximal humerus fractures in a novel cadaveric model. <i>Clinical Biomechanics</i> , 2010, 25, 886-892.	0.5	46
93	Does cancellous bone compaction due to insertion of a blade implant influence the cut-out resistance? A biomechanical study. <i>Clinical Biomechanics</i> , 2010, 25, 1053-1057.	0.5	17
94	Stability of Medial Locking Plate and Compression Screw Versus Two Crossed Screws for Lapidus Arthrodesis. <i>Foot and Ankle International</i> , 2010, 31, 158-163.	1.1	88
95	Comparison of Calcaneal Fixation of a Retrograde Intramedullary Nail with a Fixed-Angle Spiral Blade Versus a Fixed-Angle Screw. <i>Foot and Ankle International</i> , 2009, 30, 1212-1218.	1.1	27
96	Intraoperative Mechanical Bone Strength Determination in Tibiototalcaneal Fusion: A Biomechanical Investigation. <i>Foot and Ankle International</i> , 2009, 30, 1183-1189.	1.1	12
97	Is a helical shaped implant a superior alternative to the Dynamic Hip Screw for unstable femoral neck fractures? A biomechanical investigation. <i>Clinical Biomechanics</i> , 2009, 24, 59-64.	0.5	98
98	Quantification of cancellous bone-compaction due to DHS® Blade insertion and influence upon cut-out resistance. <i>Clinical Biomechanics</i> , 2009, 24, 53-58.	0.5	91
99	Biomechanical comparison of a new staple technique with tension band wiring for transverse patella fractures. <i>Clinical Biomechanics</i> , 2009, 24, 855-859.	0.5	49
100	Systematic accuracy and precision analysis of video motion capturing systems exemplified on the Vicon-460 system. <i>Journal of Biomechanics</i> , 2008, 41, 2776-2780.	0.9	306
101	Comparison of Locking and Conventional Screws for Maintenance of Tibial Plateau Positioning and Biomechanical Stability After Locking Tibial Plateau Leveling Osteotomy Plate Fixation. <i>Veterinary Surgery</i> , 2008, 37, 357-365.	0.5	48
102	Accuracy of Fragment Positioning After TPLO and Effect on Biomechanical Stability. <i>Veterinary Surgery</i> , 2008, 37, 366-373.	0.5	16
103	Ankle joint pressure in pes cavovarus. <i>Journal of Bone and Joint Surgery: British Volume</i> , 2007, 89-B, 1660-1665.	3.4	43
104	Adjacent vertebral failure after vertebroplasty: a biomechanical study of low-modulus PMMA cement. <i>European Spine Journal</i> , 2007, 16, 2118-2125.	1.0	112
105	Mechanical torque measurement predicts load to implant cut-out: a biomechanical study investigating DHS® anchorage in femoral heads. <i>Archives of Orthopaedic and Trauma Surgery</i> , 2007, 127, 469-474.	1.3	37
106	Biomechanical evaluation of a new augmentation method for enhanced screw fixation in osteoporotic proximal femoral fractures. <i>Journal of Orthopaedic Research</i> , 2006, 24, 2230-2237.	1.2	64
107	Locking Plates With Computationally Enhanced Screw Trajectories Provide Superior Biomechanical Fixation Stability of Complex Proximal Humerus Fractures. <i>Frontiers in Bioengineering and Biotechnology</i> , 0, 10, .	2.0	2